Amendments to the Specification:

Please replace paragraph [0050] with the following amended paragraph:

[0050] The photochromic dye can generally be any photochromic dye. Presently preferred photochromic dyes include the commercially available CNN7, CNN8, and CNN9 from Tokuyama Corporation (Tokyo, Japan), and Reversacol™ Ruby Red and Reversacol™ Corn Yellow from James Robinson Ltd. (Huddersfield, West Yorkshire, UK). Other dyes having utility with these preferred polymer matrices are in the 1,2b and 2,1b naphthopyran families. It should be noted that not all dyes will follow the behavior of these types. As disclosed in U.S. Pat. No. 5,914,174 (issued Jun. 22, 1999), certain dyes exhibited a deactivated color that was darker in the polar (hydrophilic) matrix. Surprisingly, this is opposite of what is observed with the preferred dyes in the preferred compositions. However, the effect noted in U.S. Pat. No. 5,914,174 has been observed with certain dyes, such as Reversacol™ Aqua Green (James Robinson Ltd.).

Please replace paragraph [0053] with the following amended paragraph:

[0053] The composition can further comprise a polymerization initiator. The polymerization initiator can be present at a concentration of about 0.06 weight percent to about 2.0 weight percent based on the weight of the composition. The initiator can be a photoinitiator or a thermal curing initiator. Presently preferred is a photoinitiator which activates when exposed to light of a wavelength between about 380 nm and about 500 nm, such as Irgacure® 819 [bis(2,4,6-trimethylbenzoyl)phenylphosphine oxide] or

Irgacure® 2020 [a mixture of 20% phenyl-bis(2,4,6-trimethylbenzoyl)phosphine oxide and 80% 2-hydroxy-2-methyl-1-phenyl-propan-1-one] by Ciba Specialty Chemicals Corp. (Basel, Switzerland) added at about 0.06 weight percent to about 1 weight percent. In thermal curing applications, the presently preferred initiators are azo compounds such as Perkadox AMBN [2,2-azobis(2-methyl)butyronitrile] by Akzo Nobel Chemicals Inc. (Chicago, Ill.), and the like.

Please replace paragraph [0055] with the following amended paragraph:

[0055] The composition can further comprise one or more fixed dyes to effect color correction of the faded lens. The fixed dye is preferably at a concentration of less than about 0.001 weight percent based on the weight of the composition. Examples of fixed dyes include Sudan® Blue 670 (BASF Corp., Mount Olive, N.J.), Keyplast Magenta M6B, Keyplast Violet 3B, Keyplast Oil Violet IRS (Keystone Aniline Corp., Chicago, Ill.), and the like.

Please replace paragraph [0064] with the following amended paragraph:

[0064] (Meth)acrylated oligomers with a polycarbonate section in the aliphatic backbone provide improved adhesion to a polycarbonate lens surface. An example of such an oligomer is Sartomer® CN9001, which is a currently preferred acrylate oligomer used for this purpose. The concentration of the oligomer in the tie layer composition prior to polymerization is about 20 weight percent to about 50 weight percent of the non-volatile components of the tie layer composition.

Please replace paragraph [0067] with the following amended paragraph:

[0067] An initiator and an appropriate energy source provide a partial cure (B-stage) of the tie coating. This partial cure provides for some residual unsaturation to exist in the tie coat, allowing for covalent bonds to be formed with the photochromic layer during subsequent curing of the layers. This partial cure also prevents the ~~monomomeroligomer~~ monomer and oligomer mixture from flowing between application and final curing with the photochromic matrix composition. Additionally, the partial cure stops excessive monomer solvating effects to the polycarbonate from occurring. Preferred initiators are photo-initiators such as Irgacure® 184, Irgacure® 2020, and Irgacure® 819 (Ciba Specialty Chemicals; Basel, Switzerland). The initiators may be used alone or in combination. The initiators are preferably present at concentrations of about 0.01 weight percent to about 8 weight percent of the composition, and more preferably at about 0.01 weight percent to about 6 weight percent of the composition. B staging can be performed using a Fusion type D bulb (Fusion UV Systems, Inc.; Gaithersburg, Md.). Final curing of the entire lens assembly can be performed using a Fusion type V bulb.

Please replace paragraph [0070] with the following amended paragraph:

[0070] Generally any polycarbonate lens can be used in connection with the inventive compositions and methods. Lens blanks are commonly injected molded, and preferably are annealed in an oven for 3-4 hours at about 250° F. to about 260° F. (121° C.-127° C.) prior to application of the tie layer composition. Examples of polycarbonate materials

include Lexan® (GE Plastics; Pittsfield, Mass.) and Makrolon® (Bayer Polymers; Leverkusen, Germany). The lenses can be cleaned with caustic solutions (such as 10 weight percent aqueous sodium hydroxide or potassium hydroxide at 150-180° F. (66-82° C.)) and/or detergent solutions. The lenses can be rinsed with de-ionized water. The lenses are then thoroughly dried in a dry air or nitrogen atmosphere in a conventional oven at about 120° F. to about 200° F. (49° C.-93° C.) for about 15 minutes to about 60 minutes. Alternatively, a radiant IR source can be used for about 15 seconds to about 60 seconds to dry the lenses.

Please replace paragraph [0085] with the following amended paragraph:

[0085] The final curing of the assembly may be accomplished through light initiated or thermally initiated free radical polymerization. UV light initiated polymerization is presently preferred. Examples of suitable thermal initiators include azo compounds such as azobisisobutyronitrile (AIBN), 2,2'-azobis(2-methyl)butyronitrile (AMBN), and 2,2'-azobis(2,4-dimethyl)valeronitrile (ADVN), available from Akzo Nobel Chemicals, Inc., and/or E.I. DuPont De Nemours Chemical, Inc. Examples of suitable photoinitiators include phosphinates and phosphine oxides, particularly substituted phosphine oxides such as 2,4,6-trimethylbenzoyldiphenylphosphine oxide (BASF Lucirin® TPO), ethyl 2,4,6-trimethylbenzoyldiphenylphosphinate (BASF Lucirin® TPOL), bis(2,4,6-trimethylbenzoyl)phenylphosphine oxide (Ciba Specialty Chemicals Corp. Irgacure® 819), and bis(2,6-dimethoxybenzoyl)-2,4,4-tri methyl pentylphosphine oxide (Ciba Specialty Chemicals Corp. CGI 403).

Please replace paragraph [0088] with the following amended paragraph:

[0088] BR571M is an oligomeric urethane dimethacrylate, and BR146 is an oligomeric urethane trimethacrylate (both available from Bomar Specialties Co., Winsted, Conn.). SR423 is isobornyl methacrylate, SR350 is trimethylolpropane trimethacrylate, SR603 is polyethyleneglycol (400) dimethacrylate, CN9001 is an oligomeric urethane diacrylate with a polycarbonate backbone, and SR203 is tetrahydrofurfuryl methacrylate (all available from Sartomer Company, Inc., Exton, Pa.). Tinuvin® 292 is bis(1,2,2,6,6,-pentamethyl-4-piperidinyl) sebacate with methyl (1,2,2,6,6,-pentamethyl-4-piperidinyl) sebacate (available from Ciba Specialty Chemicals, Inc., Basel, Switzerland). Initiators Irgacure® 819, 2020, and 184 are also available from Ciba Specialty Chemicals.

Please replace paragraph [0089] with the following amended paragraph:

[0089] Photochromic dyes CNN7, CNN8, and CNN9 are available from Tokuyama Corporation. Photochromic dyes Reversacol™ Ruby Red and Reversacol™ Corn yellow are available from James Robinson, Ltd.

Please replace Table 1 with the following amended Table:

TABLE 1

Photochromic Matric Formulation A

Component	Weight percent	Weight percent relative to combined monomer composition

BR571M	38.7	
BR146	19.3	
SR423	16.9	
SR350	16.9	
SR603	8.2	
CNN9		0.03
CNN7		0.01
Corn Yellow		0.02
Tinuvin® 292		0.9
Irgacure® 2020		0.9
Irgacure® 819		0.06

Please replace Table 2 with the following amended Table:

TABLE 2

Photochromic Matric Formulation B

Component	Weight percent	Weight percent relative to combined monomer composition
BR571M	38.6	
BR146	19.3	
SR423	16.9	
SR350	16.9	
SR603	8.3	
CNN9		0.03
CNN7		0.01
Corn Yellow		0.03
Tinuvin® 292		1.0
Irgacure® 2020		0.02
Irgacure® 819		0.06

Please replace Table 3 with the following amended Table:

TABLE 3

Photochromic Matric Formulation C

Component	Weight percent	Weight percent relative to combined monomer composition
SR423	12.6	
SR203	12.6	
BR571M	28.1	
BR146	18.0	
CN9001	28.7	
Irgacure® 819		0.01
Irgacure® 2020		2
Irgacure® 184		4
methyl ethyl ketone (75% w/w)/ isopropyl alcohol (25% w/w) solvent mixture		100 (equal to monomer weight)

Please replace paragraph [0103] with the following amended paragraph:

[0103] The photochromic lenses were evaluated for their faded transmission, darkened transmission, and time to fade through 80% of dynamic range. A xenon arc solar simulator was used as a uniform light source to activate the photochromic response for all lenses. A 1.6 KW Large Area Light Source, Model 92190-1000 and a 1600 W Arc Lamp Power Supply, Model 68922 (both manufactured by Spectra-Physics (formerly Oriel Corp.); Stratford, Conn.) formed the basis of the activating light source. Light intensity was maintained during testing, using a Spectra-Physics Oriel® Light Intensity Controller,

model 68851. The output of the simulator was modified using airmass correction filters to be capable of approximating sunlight at 50,000 lux (+/-3,000 lux) with a UVA content of 6.5 to 11 W/m^2 integrated from 315 to 380 nm as provided by ISO standard 8980-3.

Please replace paragraph [0104] with the following amended paragraph:

[0104] Light intensity of the solar simulator was set and checked using an Ocean Optics Inc. spectrophotometer, model USB2000. The spectrophotometer was calibrated using a Spectra-Physics Oriel® Standard Spectra Irradiance bulb (Model 63350), with a specified range of 250-2400 nm and a suitable radiometric power supply (Spectra-Physics Oriel® Model 69935).

Please replace paragraph [0105] with the following amended paragraph:

[0105] The light transmission through the sample lenses was measured using a HunterLab® UltraScan® XE. This testing device was outfitted with a quartz sample cell to hold the test lens in a temperature controlled water bath. The sample cell was exposed to the simulated sunlight for approximately 30 seconds, then positioned to the Ultra-Scan's measurement port within one second for the measurement flash of the xenon bulb, and then positioned into the simulated sunlight within one second, and the cycle was repeated for a total exposure time. Readings were then taken without exposure to the simulator at 30 second intervals.

Please replace Table 5 with the following amended Table:

TABLE 5

Photochromic Matric Formulation D

Component	Weight percent	Weight percent relative to combined monomer composition
BR571M	40	
BR146	20	
SR423	17.5	
SR350	14	
SR603	8.5	
CNN9		0.036
CNN7		0.012
Corn Yellow		0.0264
Tinuvin® 292		1.0
Irgacure® 819		0.16

Please replace paragraph [0113] with the following amended paragraph:

[0113] An annealed polycarbonate lens with the desired front base curve was provided. The lens was washed to remove any surface contaminants, and blown dry to remove the water. The lens was treated with a 1000 W Heraeus® carbon infrared emitter (Heraeus Amersil, Inc.; Deluth, Ga.) for 30 seconds to reach a surface temperature of about 160-170° F. (71-77° C.). Tie coat composition was applied with spin-coating, and the volatile solvent was allowed to evaporate for 15 seconds while spinning. The coated lens was B-staged by exposure to a Fusion D bulb (exposure of about 1200 mj/cm^2 centered at 360 nm, measured with an IL390 Light Bug; International Light, Inc.; Newburyport, Mass.).

Please replace paragraph [0115] with the following amended paragraph:

[0115] The photochromic matrix composition was heated to about 150° F. (66° C.) and poured onto the concave surface of the mold/gasket assembly. The B-staged tie coated polycarbonate lens was placed onto the mold/gasket assembly with care to minimize the formation or capture of bubbles. The mold/gasket/lens assembly was exposed to 700-850 microwatt/cm^2 (measured with an International Light I400A radiometer with a 405 nm narrow band pass filter) of fluorescent blue light provided by a Philips® Super Actinic 40 watt lamp (with a broad blue spectrum centered at 420 nm). The exposure was for 30 seconds through the mold side of the assembly to quickly gel the photochromic layer. The assembly was cured under light from a Fusion V Bulb for 30 minutes. The light was positioned above and shining through the polycarbonate lens portion of the assembly. The light intensity entering the assembly was approximately 4 mw/cm^2, measured at 405 nm using an International Light 1400A based radiometer system equipped with a 405 nm narrow band pass filter.